

Work Description
Techalloy Inc., Central Wire, Union, IL
November 18, 2014

I. Site Background

Techalloy is located at the intersection of Olson and Jefferson Roads in the Village of Union, Coral Township, McHenry County, Illinois. Prior to 1978, chlorinated solvents were used to clean the Wires produced in the facility. Following the site investigation, a corrective measures study was completed in 1997. The onsite remediation consisted of soil stabilization, asphalt cap installation, air sparging, and soil vapor extraction. The offsite remediation included construction and operation of a groundwater extraction and treatment facility to intercept the chlorinated hydrocarbon plume, treatment of contaminated groundwater by air stripping and discharging the treated water to the south branch of the Kishwaukee River. The system was installed in 1997 and enlarged in 1998 with the addition of a second extraction well and a second stripping system. The system is still treating groundwater. In 2006, two sod farm wells were installed offsite and down gradient of the groundwater plume. Due to the high pumping capacity of these wells, the plume has expanded and chlorinated solvents have recently been detected at concentrations above drinking water standards in the sentinel wells. Following this observation, Techalloy sampled the majority of the residential and commercial wells downgradient of the plume.

II. Scope of Work

Task 1. Scope of work:

USGS will assist EPA and Techalloy in planning of additional investigative tasks as needed to delineate the plume, characterize the plume, study contaminant fate and transport, determine the effect of SOD farm wells on the two extraction wells from Techalloy, interpret the surface water and groundwater interaction and analyze the overall aquifer hydraulics and its influence on the plume.

Task 2. USGS will provide technical assistance to Techalloy in characterizing the groundwater contaminant plume and review current site conceptual model. USGS will participate in two meetings with USEPA and Techalloy. Techalloy is in the process of collecting more data to better define the conceptual site model. USGS will review the document, monthly reports, and Document review.

Task 3. Provide oversight of Techalloy's contractor during Field Oversight of Data Collection

Task 4. After GeoProbe data has been collected, USGS will determine effects of SOD farm pumping production extraction wells. USGS will submit a report on the findings.

III. Project Contacts:

EPA: John Nordine nordine.john@epa.gov, Region 5, Chicago, IL

USGS: Robert T. Kay, Chicago, IL rtkay@usgs.gov

IV. Budget

Personnel	\$4,621
Fringe Benefits	\$ 832
Direct Costs	\$5,453
Indirect Costs	<u>\$4,125</u>
(Composite rate 1.75647)	
Total	\$9,578

V. Cost Summary

Personnel	\$4,621
Fringe Benefits	\$ 832
Direct Costs	\$5,453

VI. Deliverables, Meetings and Progress Reporting

- 1) Initial meeting and site visit with EPA, discussion on GeoProbe location for plume migration and provide oversight of Techalloy's contractor sampling efforts.
- 2) Written report to EPA. The report describing results of the GeoProbe and groundwater sampling leading edge of the plume and the groundwater analyses results should address; 1) whether VOC contamination has spread down gradient of its last reported position and; 2) whether plume is migrating due to the pumping influences of the sod farm production extraction wells. Due 45 days from USGS receipt of Techalloy's sample results.
- 3) Participation in any meeting(s) or conference calls with interested parties to discuss USGS findings, as deemed necessary.

VII. Reporting and billing - It is very important to include the site name and identification number along with the IA number in all billing and reporting.



United States Department of the Interior

U. S. GEOLOGICAL SURVEY
Illinois Water Science Center
405 North Goodwin Avenue
Urbana, IL 61801
(217) 328-8747
Fax: (217) 328-9770
<http://il.water.usgs.gov>

November 7, 2014

Mr. John Nordine
U.S. Environmental Protection Agency
Region V, LU-9J
77 W. Jackson Blvd.
Chicago, IL 60604

Dear John:

Attached please find a cost estimate for Bob Kay to provide you with technical assistance at the Techalloy facility in Union, Illinois for a period of one year (October 2014-2015), to be renewed as the U.S. Environmental Protection Agency requires. Based on past experience we anticipate the work activities will involve review of monthly progress reports, review of various work plans to cover collection of field data, oversight of collection of field data, and review of various reports analyzing field data. These work activities would be funded from monies available in interagency agreement (IAG) DW-14-95813001-0. If this is acceptable to you, please initiate the paperwork you need on your end.

Feel free to call Robert Kay at 815-756-9207 or Kelly Welborn at 217-328-9740 if you have any questions or comments.

Sincerely,

Douglas J. Yeskis
Director, USGS Illinois Water Science Center

cc. Welborn
Kay

Work Activities

Review of 12 monthly reports	12 hours of salary
Review of Work Plans for Collection of Field Data	5 hours of salary
Field Oversight of Data Collection	32 hours of Salary
Review of Reports on Analysis of Data Collection	20 hours of Salary

Cost Summary 69 hours salary

Personnel	\$ 4,621
-----------	----------

Fringe Benefits	\$ 832
-----------------	--------

Direct Costs	\$ 5,453
--------------	----------

Indirect Costs (composite rate 1.75647)	\$ 4,125
---	----------

Total	\$ 9,578
-------	----------

MS Halfar
US DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

Mr. John Nordine
US Environmental Protection Agency
Region V, LU-9J
77 W. Jackson Blvd.
Chicago, IL 60604



60604\$3508

Nordine, John

From: Kay, Robert <rtkay@usgs.gov>
Sent: Tuesday, November 04, 2014 7:57 PM
To: Robinson, Martha
Cc: Teresa Halfar; Jon Hortness; Nordine, John
Subject: USGS RCRA expenditures

Martha, per your conversations with us during the past couple of days please be aware of the following.

The consultant for the Techalloy site turned in a series of poorly done documents that required substantial additional review and meetings than was anticipated when we submitted our cost estimate for the work at Techalloy. For this reason we exceeded our cost estimate by about 13 hours, for a cost overrun of \$1,709.73.

we request that USEPA reimburse us for this amount. please call me if you have any questions.

--
Robert T. Kay
U.S. Geological Survey
650G Peace Road
DeKalb, IL 60115
815-752-2041
rtkay@usgs.gov

Nordine, John

From: Robinson, Martha
Sent: Wednesday, November 05, 2014 8:45 AM
To: Hortness, Jon; Moore, Tammy; Nordine, John
Cc: Robert Kay; Halfar, Teresa; OLone, Kimberly
Subject: IA- USGS RCRA expenditures (Techalloy Facility)

Hi, Jon and Bob,
Thank you so much for the e-mail.

Tammy and John,
At your convenience, can you review the e-mails below and let me know if you approve the amendment.

Based on a discussion and the email below we need to amend the Techalloy work assignment to reflect additional expenditures for \$1,709.73. We allocated only \$11,925.00 and need to add the additional amount, which will bring the total amount for the 2nd Techalloy work assignment to \$13,634.75.

Feel free to call me if you have any questions.

Sincerely,

Martha Y. Robinson
Environmental Specialist
U.S. Environmental Protection Agency
Region 5
Tel. (312) 886-6141
Fax. (312) 692-2585
robinson.martha@epa.gov



Please consider the environment before printing this message.

From: Hortness, Jon [mailto:hortness@usgs.gov]
Sent: Tuesday, November 04, 2014 10:29 PM
To: Robinson, Martha
Subject: Re: USGS RCRA expenditures

Hi Martha,
I asked Bob to follow up on this. If you need a more formal letter, or if you need more info, please let me know.

Thanks
Jon

On Tue, Nov 4, 2014 at 7:56 PM, Kay, Robert <rtkay@usgs.gov> wrote:

Martha, per your conversations with us during the past couple of days please be aware of the following.

The consultant for the Techalloy site turned in a series of poorly done documents that required substantial additional review and meetings than was anticipated when we submitted our cost estimate for the work at Techalloy. For this reason we exceeded our cost estimate by about 13 hours, for a cost overrun of \$1,709.73.

we request that USEPA reimburse us for this amount. please call me if you have any questions.

-
Robert T. Kay
U.S. Geological Survey
650G Peace Road
DeKalb, IL 60115
815-752-2041
rtkay@usgs.gov

--

Jon Hortness, PE
Supervisory Hydrologist/Surface Water Specialist
USGS, Illinois Water Science Center - DeKalb
650B N Peace Road
DeKalb, IL 60115
815-752-2036 (office)
815-530-3274 (cell)

Nordine, John

From: Robinson, Martha
Sent: Wednesday, November 05, 2014 10:55 AM
To: Hortness, Jon; Moore, Tammy; Nordine, John
Cc: Robert Kay; Halfar, Teresa; OLone, Kimberly
Subject: IA- USGS RCRA expenditures (Techalloy Facility)

Revised Message – Pls. disregard the first Msg. I Thanks

Hi, Jon and Bob,
Thank you so much for the e-mail.

Tammy and John,
At your convenience, can you review the e-mails below and let me know if you approve the amendment.

Based on a discussion and the email below we need to amend the Techalloy work assignment to reflect additional expenditures for \$1,709.73. We allocated only \$11,925.00 and need to add the additional amount, which will bring the total amount for the 2nd Techalloy work assignment to \$13,634.73.

Feel free to call me if you have any questions.

Sincerely,

Martha Y. Robinson
Environmental Specialist
U.S. Environmental Protection Agency
Region 5
Tel. (312) 886-6141
Fax. (312) 692-2585
robinson.martha@epa.gov



Please consider the environment before printing this message.

From: Hortness, Jon [<mailto:hortness@usgs.gov>]
Sent: Tuesday, November 04, 2014 10:29 PM
To: Robinson, Martha
Subject: Re: USGS RCRA expenditures

Hi Martha,
I asked Bob to follow up on this. If you need a more formal letter, or if you need more info, please let me know.

Thanks
Jon

On Tue, Nov 4, 2014 at 7:56 PM, Kay, Robert <rtkay@usgs.gov> wrote:

Martha, per your conversations with us during the past couple of days please be aware of the following.

The consultant for the Techalloy site turned in a series of poorly done documents that required substantial additional review and meetings than was anticipated when we submitted our cost estimate for the work at Techalloy. For this reason we exceeded our cost estimate by about 13 hours, for a cost overrun of \$1,709.73.

we request that USEPA reimburse us for this amount. please call me if you have any questions.

-
Robert T. Kay
U.S. Geological Survey
650G Peace Road
DeKalb, IL 60115
815-752-2041
rtkay@usgs.gov

--

Jon Hortness, PE
Supervisory Hydrologist/Surface Water Specialist
USGS, Illinois Water Science Center - DeKalb
650B N Peace Road
DeKalb, IL 60115
815-752-2036 (office)
815-530-3274 (cell)

Nordine, John

From: Nordine, John
Sent: Thursday, November 06, 2014 7:18 AM
To: Robinson, Martha; Hortness, Jon; Moore, Tammy
Cc: Robert Kay; Halfar, Teresa; OLone, Kimberly
Subject: RE: IA- USGS RCRA expenditures (Techalloy Facility)

Martha,

The cost are in line the work completed, I approve the amendment for the additional expenditures of \$1,709.73.

Respectfully,

John Nordine, CPG, LPG
U.S. EPA, Region 5
RCRA Corrective Action Section
77 W. Jackson Blvd. LU-9J
Chicago, Illinois 60604

Phone: 312-353-1243
Fax: 312-385-5338

"The great end of education is to discipline rather than finish the mind; to train it to use of its own powers rather than to fill it with the accumulation of others." Tryon Edwards

"Don't interfere with anything in the Constitution. That must be maintained, for it is the only safeguard of our liberties" Abraham Lincoln

Warning: This communication, along with any attachments, is covered by federal and state law governing electronic communications and may contain confidential and legally privileged information. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, use or copying of this message is strictly prohibited. If you have received this in error, please reply immediately to the sender and delete this message.

From: Robinson, Martha
Sent: Wednesday, November 05, 2014 10:55 AM
To: Hortness, Jon; Moore, Tammy; Nordine, John
Cc: Robert Kay; Halfar, Teresa; OLone, Kimberly
Subject: IA- USGS RCRA expenditures (Techalloy Facility)

Revised Message – Pls. disregard the first Msg.! Thanks

Hi, Jon and Bob,
Thank you so much for the e-mail.

Tammy and John,
At your convenience, can you review the e-mails below and let me know if you approve the amendment.

Based on a discussion and the email below we need to amend the Techalloy work assignment to reflect additional expenditures for \$1,709.73. We allocated only \$11,925.00 and need to add the additional amount, which will bring the total amount for the 2nd Techalloy work assignment to \$13,634.73.

Feel free to call me if you have any questions.

Sincerely,

Martha Y. Robinson

Environmental Specialist
U.S. Environmental Protection Agency
Region 5
Tel. (312) 886-6141
Fax. (312) 692-2585
robinson.martha@epa.gov



Please consider the environment before printing this message.

From: Hortness, Jon [<mailto:hortness@usgs.gov>]
Sent: Tuesday, November 04, 2014 10:29 PM
To: Robinson, Martha
Subject: Re: USGS RCRA expenditures

Hi Martha,

I asked Bob to follow up on this. If you need a more formal letter, or if you need more info, please let me know.

Thanks
Jon

On Tue, Nov 4, 2014 at 7:56 PM, Kay, Robert <rtkay@usgs.gov> wrote:

Martha, per your conversations with us during the past couple of days please be aware of the following.

The consultant for the Techalloy site turned in a series of poorly done documents that required substantial additional review and meetings than was anticipated when we submitted our cost estimate for the work at Techalloy. For this reason we exceeded our cost estimate by about 13 hours, for a cost overrun of \$1,709.73.

we request that USEPA reimburse us for this amount. please call me if you have any questions.

Robert T. Kay
U.S. Geological Survey
650G Peace Road
DeKalb, IL 60115
815-752-2041
rtkay@usgs.gov

--

Jon Hortness, PE
Supervisory Hydrologist/Surface Water Specialist

USGS, Illinois Water Science Center - DeKalb
650B N Peace Road
DeKalb, IL 60115
815-752-2036 (office)
815-530-3274 (cell)

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 		A. Signature X <i>Ayla Anuit</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee	
1. Article Addressed to: United States Geological Survey Attn: Bob Kay 650 Peace Road, DeKalb, IL 60115		B. Received by (Printed Name) <i>Ayla Anuit</i> C. Date of Delivery <i>4-7-14</i> <input type="checkbox"/> Delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> If Yes, enter delivery address below: <input type="checkbox"/> No	
		Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
2. Article Number (Transfer from service label)		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
7009 1680 0000 7671 1968			
PS Form 3811, February 2004		Domestic Return Receipt 102595-02-M-1540	

U.S. Postal Service *Nordine LU-9J*
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com

OFFICIAL USE


Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

United States Geological Survey
Attn: Bob Kay
650 Peace Road,
DeKalb, IL 60115

Postmark Here
APR 7 2014
STATION CHICAGO, IL

7009 1680 0000 7671 1968

Technical Contact Review Worksheet for Progress Reports

1. Project Title:	USGS Technical and Scientific Support	2. Grantee:	DOI 61801 - Department of the Interior
3. Grant Number:	W95813001		
4. Date Report Received:	01/21/2014	5. Worksheet Due Date:	01/27/2014
6. Technical Contact:	John Nordine	7. Project Officer:	Martha Robinson
8. Period of Report:	07/12/2013 - 09/13/2013		
9. TC Signature:			
Signature Date:			

10) Does this report adequately describe the activities performed during the period of the report to achieve the Workplan objectives?	● Yes ○ No
Explain the activities and relate to Workplan: Reviewed documents as directed by EPA and gave technical comments on the documents as needed and provide oversight of sampling activities at the facility.	
11) Is the grantee making sufficient progress on the grant objectives and actions as outlined in the approved Workplan?	● Yes ○ No
12) If monitoring has been conducted, is the QAPP/QMP being followed?	● Yes ○ No ○ N/A
Does the QAPP need to be revised or has it been?	○ Yes ● No ○ N/A
13) Have any deliverables been submitted during this reporting period? If so, relate them to the work plan activities and provide a brief review of the deliverables; i.e., name and content of deliverable, associated Workplan task, quality of report, etc.	● Yes ○ No
Describe and relate to Workplan activities: Reviewed documents as directed by EPA and gave technical comments on the documents as needed and provide oversight of sampling activities at the facility.	
14) Any training and/or travel taken this reporting period?	● Yes ○ No
Is this training and/or travel consistent with the Workplan objectives?	● Yes ○ No
15) Any equipment purchased (items over \$5000) during this reporting period?	○ Yes ● No
16) Does the progress report anticipate any activities, actions, and/or problems?	○ Yes ● No
17) Any specific lessons learned that may be beneficial for future projects or references?	○ Yes ● No
18) Any additional comments?	○ Yes ● No
(Please include any additional comments, as needed - See Additional Comments Below)	

Instructions For Technical Contact Review Worksheet For Progress Reports

Technical Contact Review Worksheet for Progress Reports

Numbers 1-8 should be filled out by the Project Officer prior to sending the form to the Technical Contact

- 1) **Project Title:** If no project title, leave blank
- 2) **Grantee:** Provide full name of the Grantee
- 3) **Grant Number:** Provide full grant number
- 4) **Date Report Received:** This is the date that the agency received the report.
- 5) **Date Due:** The date that the report was due to the agency; i.e., Number 5 along with Number 6, we should be able to determine if the report was submitted on time or not. If it is late, additional comments should be made in Number 18 to explain why.
- 6) **Technical Contact:** Select the TC's name
- 7) **Project Officer:** Select the PO's name
- 8) **Period of Report:** i.e., 1st Q - FY07, Annual Rpt FY07.
- 9) **TC Signature:** TC signs here.
- 10-17) Provide the Yes or No answers as appropriate and explain your response as best as you can.
If the worksheet is done electronically, you can just type in your comments as text. If additional comments are needed, please include them below in the additional comments section.
- 18) Any additional comments? Please provide any other concerns, issues, highlights, etc, covering the grant period. If the progress report does not support the close-out of the grant, the reasons should be listed here along with recommendations for the grantee on what is needed to address the issue of close-out concerns.

Additional Comments

Project Title:	USGS Technical and Scientific Support	Grantee:	DOI 61801 - Department of the Interior
Grant Number:	W95813001	Period Of Report:	07/12/2013 - 09/13/2013
Additional Comments Added Here:			

Document History

1/21/2014 1:52:33 PM - Project Officer - Martha Robinson - Created Document (Comments)
1/21/2014 1:59:39 PM - Project Officer - Martha Robinson - Attached File(s)

File Attachments



- DW1495813001-2 FY14 4th qtr.pdf
Last modified by Martha Robinson at 01/21/2014 01:59 PM

Nordine, John

From: Kay, Robert [rtkay@usgs.gov]
Sent: Monday, June 10, 2013 1:11 PM
To: Nordine, John
Subject: Re: FW: Electronic Files of Central Wire May 10 RCERA Corrective Action Implementation submittal to U.S.EPA

Response to Autumnwood REvised Response to USEPA review comments, 12-18-12.

Response to Comment 1. I don't know if it wasn't sent to me or if these are some/all of the plots in the attachments in the e-mail, but as near as i can tell there is no attachment 1 in this submission. at the very least there is nothing labelled as attachment 1 that i've been able to find in the e-mail. what i think is mean to be the components of attachment 1 are labelled figures 1, 2, etc. As noted in the previous e-mail no fence diagram has been provided that i'm aware of. In addition, none of these attachments contain the pump and treat water quality (although I have seen the P&T water quality information presented in previously submitted e-mails).

What Autumnwood needs to provide is an actual report that contains ALL the information we've asked for in ONE COMPLETE document that has a Table of Contents and text and figures and appendices and all the other information necessary for the reader to get a complete understanding of what's going on at this site. This is the kind of document EVERY other consulting firm manages to generate for EVERY site i've ever worked on.

We've been going around and around with Autumnwood on this issue for a number of months now and they're still presenting (at least in terms of what i'm seeing) bits and pieces of the figures and maybe tables that would form the backbone of the report we've been asking for, but they haven't presented anything like the actual report. By this point in the process I was expecting to see an honest to god report with actual text presenting actual analysis of actual data that references actual figures and tables to support the interpretations. I was expecting the text, tables, and figures to provide a comprehensive assessment of the site hydrogeology and current and historic nature and extent of contamination, including some discussion of whether or not the plume is expanding, stable, or decreasing in size and the processes affecting the plume. It is my understanding that Autumnwood and CW have agreed to provide EPA with just such a document and these continual delays is being able to provide the report, or even effectively being able to provide components of the reports like figures of water levels or fence diagrams or figures with actual figure captions is looking like either obstruction or incompetence.

Let me stress that we're not asking CW or Autumnwood for anything out of the ordinary here and we're not asking for a document just for the fun of it. It is important to have a comprehensive, periodic assessment of the plume so that we can all evaluate what, if anything, needs to be done to protect human health and the environment at this site. Presenting this analysis in a single, complete, fully documented report is necessary to that we, as well as the public and future personnel involved at this site from EPA, CW, consulting firms, local government, etc. can find the information they need without having to reconstruct dozens of e-mails and hundreds of files.

Basically, it's time for CW and Autumnwood to get their act together and meet their commitments.

Response to Comment 2. I'm OK with the response.

Comment 4 (response to comment 3 appears to be missing). Again, this needs to be in an actual report. See previous e-mail comments on specific changes tot he the potentiometric surface figure.

Comment 5. This is the kind of analysis we've been asking for. It needs to go in the report.

Comment 6. Again, i have not been provided an attachment 1, at least in this submission. The VOC data discussed in this response was provided in an earlier submission. Again, I'm fine with the response, but this analysis needs to be in a report.

Comment 7. I'm OK with the response.

Comments 8 and 9. I'm OK with the response.

Comment 10. Again, I don't have this attachment. I think I've seen the plot in a previous e-mail. It needs to be in the report.

Discussion of the effects of increased specific gravity of water, or VOCs dissolved in water, at this point in the plume (and probably any point in the plume) is misplaced, or at least unsupported. There is no reason to assume density effects for the water, or the presence of a VOC DNAPL. The concentrations are just too low for a DNAPL to be probable. The location (depth) of the plume, particularly at the GP locations, is the result movement with groundwater--if it's fairly deep that's because the groundwater is moving downward. Autumnwood needs to revise, or at least support, their interpretation of VOC distribution in these wells.

Other figures in Attachment 1. Again, What was provided in this attachment is not a fence diagram.

Response to Comments on the Oct 2012 Monthly Progress Report

All of the responses are adequate, so I will not respond to them individually, Again, most of this stuff needs to go into the comprehensive report.

For comment 6, again, it's almost certain that plume location is due to groundwater flow, not specific gravity/DNAPL. The interpretation should be revised accordingly.

On Fri, Jun 7, 2013 at 4:40 PM, Kay, Robert <rtkay@usgs.gov> wrote:

John--comments in the order of the attachments. please hold off on sending these to CW as i will be going over the other submission and i may change my comments. in addition, i'll probably send one e-mail that contains my complete review of all the current submissions, which will involve duplication of these comments as well as (probably) some summary statements about the format of the submissions from CW.

i'm just sending this "mini submission" to you because i think it'll be easier to keep track of everything (for me at least) if the reviewed documents and the review comments in the same e-mail, at least to fall back on if things get confused.

1. Central Wire Fence Diagram. For starters this attachment doesn't provide a fence diagram, it shows a plot of VOC concentrations in each well. There is NO useful spatial information here, columns of distance and direction from source are of no use to the reader. A fence diagram is not a graph. What should have been presented, and what still needs to be provided, is a series of cross sections that combine to provide a 3-D depiction of the VOC concentration throughout the area of data collection. These cross sections should include locations on AND AWAY FROM the centerline of the plume to allow a better assessment of its location and

extent. I hate to keep beating this horse, but at this point in his career Jack should know the difference between what was promised and what was delivered. This presentation is either incompetence or obstruction and I'd suggest we stop being polite about the ongoing difficulties Autumnwood has been having providing EPA with anything approaching a clear and comprehensive presentation and analysis of the data they've been collecting.

2. MW4, MW5, MW5D, MW6, MW7, MW8 MW9, MW-HBR, DGW-1D, DGW-1I VOC data. I'm having some difficulties with the contents of these files. most of them seem OK, but for some, like MW08, the plots are different, and the information presented is different (figure captions missing or present, concentration scale correct or incorrect) depending on how the file is opened. i'm going to assume they're OK in the original and the difficulty is with Google.

3. DGW-2I water levels. looks OK to me.

4. Potentiometric map

a. This map needs a figure number and a figure caption, including location, date, and exactly what unit the potentiometric surface is being drawn for--water table? top of sand and gravel?

b. Omit wells with no data, like the municipal wells. It implies an incorrect level of coverage. Or at least put a little (nd) by them and define nd as "no data" in the Legend.

c. Common practice for the explanation of the contours in the Legend is something like "---823---
Potentiometric surface of sand and gravel, in feet above North American Vertical Datum of 1988. Dashed where inferred" Autumnwood should alter the legend accordingly.

5. Plots of GP sites. this is either table 3 (data) or some figure number (plots). Autumnwood needs to make up their mind what they're trying to convey here. if it's a table they need to lose the plots. also, the table needs some explanation, like what 2007, 2008, etc. are (years), unit of concentration, depth intervals covered by the samples, ideally a definition of what MCL stands for, provision of the actual MCL value for a constituent, etc. if these are supposed to be figures, they also need captions, spelling out of Conc'n, and ug/L,

6. Response to comments--i'll send separately.

On Tue, May 28, 2013 at 6:15 AM, Nordine, John <nordine.john@epa.gov> wrote:

From: Jack Thorsen [<mailto:jack@autumnwoodesh.com>]

Sent: Thursday, May 23, 2013 1:01 PM

To: Nordine, John

Cc: Gerald Ruopp

Subject: Electronic Files of Central Wire May 10 RCERA Corrective Action Implementation submittal to U.S.EPA

John:

Sorry for the delay, but the files you requested are attached. There may be more to follow when I get back to my office tomorrow.

Regards,

Jack

John W. Thorsen, P.E.

Autumnwood ESH Consultants

262.237.1130

Nordine, John

From: Kay, Robert [rtkay@usgs.gov]
Sent: Monday, June 10, 2013 1:11 PM
To: Nordine, John
Subject: Re: FW: Electronic Files of Central Wire May 10 RCERA Corrective Action Implementation submittal to U.S.EPA

Response to Autumnwood REvised Response to USEPA review comments, 12-18-12.

Response to Comment 1. I don't know if it wasn't sent to me or if these are some/all of the plots in the attachments in the e-mail, but as near as i can tell there is no attachment 1 in this submission. at the very least there is nothing labelled as attachment 1 that i've been able to find in the e-mail. what i think is mean to be the components of attachment 1 are labelled figures 1, 2, etc. As noted in the previous e-mail no fence diagram has been provided that i'm aware of. In addition, none of these attachments contain the pump and treat water quality (although I have seen the P&T water quality information presented in previously submitted e-mails).

What Autumnwood needs to provide is an actual report that contains ALL the information we've asked for in ONE COMPLETE document that has a Table of Contents and text and figures and appendices and all the other information necessary for the reader to get a complete understanding of what's going on at this site. This is the kind of document EVERY other consulting firm manages to generate for EVERY site i've ever worked on.

We've been going around and around with Autumnwood on this issue for a number of months now and they're still presenting (at least in terms of what i'm seeing) bits and pieces of the figures and maybe tables that would form the backbone of the report we've been asking for, but they haven't presented anything like the actual report. By this point in the process I was expecting to see an honest to god report with actual text presenting actual analysis of actual data that references actual figures and tables to support the interpretations. I was expecting the text, tables, and figures to provide a comprehensive assessment of the site hydrogeology and current and historic nature and extent of contamination, including some discussion of whether or not the plume is expanding, stable, or decreasing in size and the processes affecting the plume. It is my understanding that Autumnwood and CW have agreed to provide EPA with just such a document and these continual delays is being able to provide the report, or even effectively being able to provide components of the reports like figures of water levels or fence diagrams or figures with actual figure captions is looking like either obstruction or incompetence.

Let me stress that we're not asking CW or Autumnwood for anything out of the ordinary here and we're not asking for a document just for the fun of it. It is important to have a comprehensive, periodic assessment of the plume so that we can all evaluate what, if anything, needs to be done to protect human health and the environment at this site. Presenting this analysis in a single, complete, fully documented report is necessary to that we, as well as the public and future personnel involved at this site from EPA, CW, consulting firms, local government, etc. can find the information they need without having to reconstruct dozens of e-mails and hundreds of files.

Basically, it's time for CW and Autumnwood to get their act together and meet their commitments.

Response to Comment 2. I'm OK with the response.

Comment 4 (response to comment 3 appears to be missing). Again, this needs to be in an actual report. See previous e-mail comments on specific changes to the potentiometric surface figure.

Comment 5. This is the kind of analysis we've been asking for. It needs to go in the report.

Comment 6. Again, i have not been provided an attachment 1, at least in this submission. The VOC data discussed in this response was provided in an earlier submission. Again, I'm fine with the response, but this analysis needs to be in a report.

Comment 7. I'm OK with the response.

Comments 8 and 9. I'm OK with the response.

Comment 10. Again, I don't have this attachment. I think I've seen the plot in a previous e-mail. It needs to be in the report.

Discussion of the effects of increased specific gravity of water, or VOCs dissolved in water, at this point in the plume (and probably any point in the plume) is misplaced, or at least unsupported. There is no reason to assume density effects for the water, or the presence of a VOC DNAPL. The concentrations are just too low for a DNAPL to be probable. The location (depth) of the plume, particularly at the GP locations, is the result movement with groundwater--if it's fairly deep that's because the groundwater is moving downward.

Autumnwood needs to revise, or at least support, their interpretation of VOC distribution in these wells.

Other figures in Attachment 1. Again, What was provided in this attachment is not a fence diagram.

Response to Comments on the Oct 2012 Monthly Progress Report

All of the responses are adequate, so I will not respond to them individually, Again, most of this stuff needs to go into the comprehensive report.

For comment 6, again, it's almost certain that plume location is due to groundwater flow, not specific gravity/DNAPL. The interpretation should be revised accordingly.

On Fri, Jun 7, 2013 at 4:40 PM, Kay, Robert <rtkay@usgs.gov> wrote:

John--comments in the order of the attachments. please hold off on sending these to CW as i will be going over the other submission and i may change my comments. in addition, i'll probably send one e-mail that contains my complete review of all the current submissions, which will involve duplication of these comments as well as (probably) some summary statements about the format of the submissions from CW.

i'm just sending this "mini submission" to you because i think it'll be easier to keep track of everything (for me at least) if the reviewed documents and the review comments in the same e-mail, at least to fall back on if things get confused.

1. Central Wire Fence Diagram. For starters this attachment doesn't provide a fence diagram, it shows a plot of VOC concentrations in each well. There is NO useful spatial information here, columns of distance and direction from source are of no use to the reader. A fence diagram is not a graph. What should have been presented, and what still needs to be provided, is a series of cross sections that combine to provide a 3-D depiction of the VOC concentration throughout the area of data collection. These cross sections should include locations on AND AWAY FROM the centerline of the plume to allow a better assessment of its location and

extent. I hate to keep beating this horse, but at this point in his career Jack should know the difference between what was promised and what was delivered. This presentation is either incompetence or obstruction and I'd suggest we stop being polite about the ongoing difficulties Autumnwood has been having providing EPA with anything approaching a clear and comprehensive presentation and analysis of the data they've been collecting.

2. MW4, MW5, MW5D, MW6, MW7, MW8 MW9, MW-HBR, DGW-1D, DGW-1I VOC data. I'm having some difficulties with the contents of these files. Most of them seem OK, but for some, like MW08, the plots are different, and the information presented is different (figure captions missing or present, concentration scale correct or incorrect) depending on how the file is opened. I'm going to assume they're OK in the original and the difficulty is with Google.

3. DGW-2I water levels. looks OK to me.

4. Potentiometric map

- a. This map needs a figure number and a figure caption, including location, date, and exactly what unit the potentiometric surface is being drawn for--water table? top of sand and gravel?
- b. Omit wells with no data, like the municipal wells. It implies an incorrect level of coverage. Or at least put a little (nd) by them and define nd as "no data" in the Legend.
- c. Common practice for the explanation of the contours in the Legend is something like "---823--- Potentiometric surface of sand and gravel, in feet above North American Vertical Datum of 1988. Dashed where inferred" Autumnwood should alter the legend accordingly.

5. Plots of GP sites. this is either table 3 (data) or some figure number (plots). Autumnwood needs to make up their mind what they're trying to convey here. If it's a table they need to lose the plots. Also, the table needs some explanation, like what 2007, 2008, etc. are (years), unit of concentration, depth intervals covered by the samples, ideally a definition of what MCL stands for, provision of the actual MCL value for a constituent, etc. If these are supposed to be figures, they also need captions, spelling out of Conc'n, and ug/L,

6. Response to comments--I'll send separately.

On Tue, May 28, 2013 at 6:15 AM, Nordine, John <nordine.john@epa.gov> wrote:

From: Jack Thorsen [<mailto:jack@autumnwoodesh.com>]

Sent: Thursday, May 23, 2013 1:01 PM

To: Nordine, John

Cc: Gerald Ruopp

Subject: Electronic Files of Central Wire May 10 RCERA Corrective Action Implementation submittal to U.S.EPA

John:

Sorry for the delay, but the files you requested are attached. There may be more to follow when I get back to my office tomorrow.

Regards,

Jack

John W. Thorsen, P.E.

Autumnwood ESH Consultants

262.237.1130

Nordine, John

From: Kay, Robert [rtkay@usgs.gov]
Sent: Friday, June 07, 2013 5:41 PM
To: Nordine, John
Subject: Re: FW: Electronic Files of Central Wire May 10 RCERA Corrective Action Implementation submittal to U.S.EPA

John--comments in the order of the attachments. please hold off on sending these to CW as i will be going over the other submission and i may change my comments. in addition, i'll probably send one e-mail that contains my complete review of all the current submissions, which will involve duplication of these comments as well as (probably) some summary statements about the format of the submissions from CW.

i'm just sending this "mini submission" to you because i think it'll be easier to keep track of everything (for me at least) if the reviewed documents and the review comments in the same e-mail, at least to fall back on if things get confused.

1. Central Wire Fence Diagram. For starters this attachment doesn't provide a fence diagram, it shows a plot of VOC concentrations in each well. There is NO useful spatial information here, columns of distance and direction from source are of no use to the reader. A fence diagram is not a graph. What should have been presented, and what still needs to be provided, is a series of cross sections that combine to provide a 3-D depiction of the VOC concentration throughout the area of data collection. These cross sections should include locations on AND AWAY FROM the centerline of the plume to allow a better assessment of its location and extent. I hate to keep beating this horse, but at this point in his career Jack should know the difference between what was promised and what was delivered. This presentation is either incompetence or obstruction and I'd suggest we stop being polite about the ongoing difficulties Autumnwood has been having providing EPA with anything approaching a clear and comprehensive presentation and analysis of the data they've been collecting.

2. MW4, MW5, MW5D, MW6, MW7, MW8 MW9, MW-HBR, DGW-1D, DGW-1I VOC data. I'm having some difficulties with the contents of these files. most of them seem OK, but for some, like MW08, the plots are different, and the information presented is different (figure captions missing or present, concentration scale correct or incorrect) depending on how the file is opened. i'm going to assume they're OK in the original and the difficulty is with Google.

3. DGW-2I water levels. looks OK to me.

4. Potentiometric map

- a. This map needs a figure number and a figure caption, including location, date, and exactly what unit the potentiometric surface is being draw for--water table? top of sand and gravel?
- b. Omit wells with no data, like the municipal wells. It implies an incorrect level of coverage. Or at least put a little (nd) by them and define nd as "no data" in the Legend.
- c. Common practice for the explanation of the contours in the Legend is something like "---823---
Potentiometric surface of sand and gravel, in feet above North American Vertical Datum of 1988. Dashed where inferred" Autumnwood should alter the legend accordingly.

5. Plots of GP sites. this is either table 3 (data) or some figure number (plots). Autumnwood needs to make up their mind what they're trying to convey here. if it's a table they need to lose the plots. also, the table needs some explanation, like what 2007, 2008, etc. are (years), unit of concentration, depth intervals covered by the samples, ideally a definition of what MCL stands for, provision of the actual MCL value for a constituent, etc. if these are supposed to be figures, they also need captions, spelling out of Conc'n, and ug/L,

6. Response to comments--i'll send separately.

On Tue, May 28, 2013 at 6:15 AM, Nordine, John <nordine.john@epa.gov> wrote:

From: Jack Thorsen [<mailto:jack@autumnwoodesh.com>]

Sent: Thursday, May 23, 2013 1:01 PM

To: Nordine, John

Cc: Gerald Ruopp

Subject: Electronic Files of Central Wire May 10 RCERA Corrective Action Implementation submittal to U.S.EPA

John:

Sorry for the delay, but the files you requested are attached. There may be more to follow when I get back to my office tomorrow.

Regards,

Jack

John W. Thorsen, P.E.

Autumnwood ESH Consultants

262.237.1130



Techalloy SLug tests
Robert T Kay to: jack.thorsen
Cc: John Nordine


06/08/2010 05:29 PM

Jack--slug tests look good but i have a couple questions about the analysis.

1. the data was plotted for a second or two before the test began, which screws up the Y_0 (which isn't a big deal) and seemingly the frequency measurement on at least one of the tests (#2).
2. i'm not sure i see where you're getting the oscillation frequency values from. the points apparently selected for the frequency computation don't seem to match up with the data plots. my read of the raw data is that a full cycle takes about 8-10 seconds. from what i can tell from the frequency value in the spread sheets, your oscillation is calculated to be substantially higher. these numbers seem to be based on matching the cycle values to the simulated data, they should be matched to the measured data.
3. this is for academic interest, but T values are affected by S values. can you provide some sensitivity analysis--say set $S = 0.1$ and 0.001 and see what the results are?
4. this is a bit unclear how to handle this issue, but the screen length and the aquifer thickness are not identical here. K_h should probably be calculated based on the actual aquifer thickness.
5. I agree the second test seems to provide the most consistent data.

Robert T. Kay
Hydrologist
U.S. Geological Survey
650B Peace Road
DeKalb, Illinois 60115
815-756-9207



Re: Slug Test Data 
Bob Kay to: Jack Thorsen
Cc: "Steve Grant", Robert T Kay
Bcc: John Nordine

05/13/2010 05:01 PM

Jack and Steve--this is an oscillatory response. I'm not sure what kind of slug-test analysis package you have but it should have an oscillatory response solution--I usually use van der Kamp, but there are others. the attachment below is a re-work of the data and has some graphs of water levels at what I think are the times when the slug was inserted/removed. from this data you can calculate aquifer properties. however, there are a couple problems with the data.

1. reading are in absolute pressure, I'm not sure if this means the reading is in PSI (column heading says it is) or if you've converted to feet of water.
2. measurements need to be in feet of water for both the slug test AND the long-term monitoring.
3. would prefer readings on a shorter (1/2 sec or 1.4 sec) time frequency for more precise data for analysis.
4. a quick look at the data indicates so-so agreement between text, mainly in the magnitude of the water level changes
5. given these issues, I'd suggest analyzing all the slug tests and seeing if they give reasonable, reproducible results and (or) Steve and I meet next week and do some slug tests. Again, if you want to do pump tests on this well I can see value in it, but slug tests will give a T and Kh value, and will do it cheaper than pump tests.
6. if you want to discuss I'll be at 312-886-7938 the rest of today, at 815-756-9207 tomorrow. 630-677-1309 whenever.

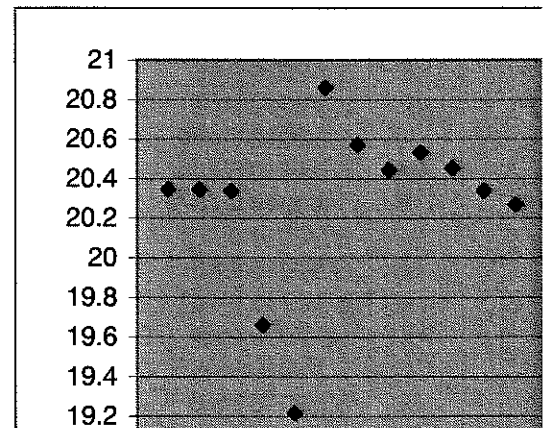
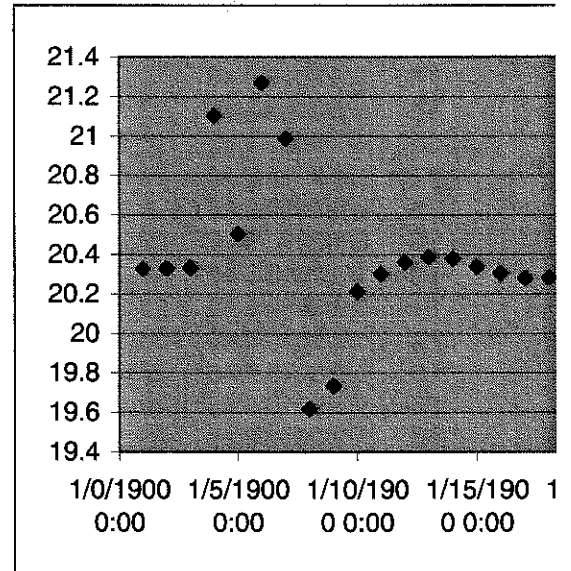
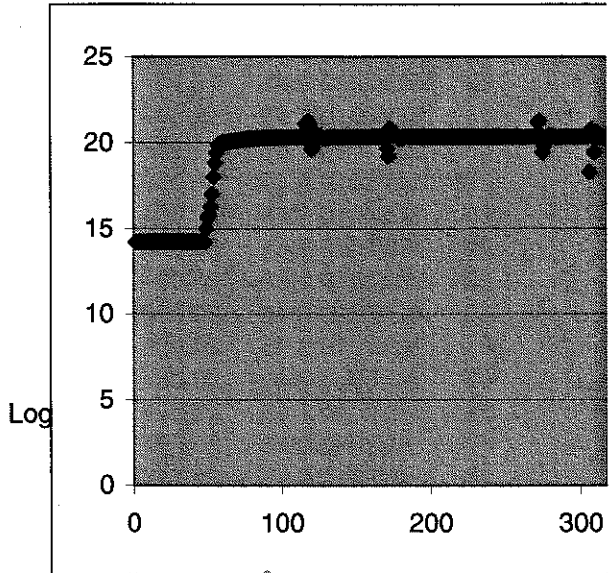


slug050310.xls

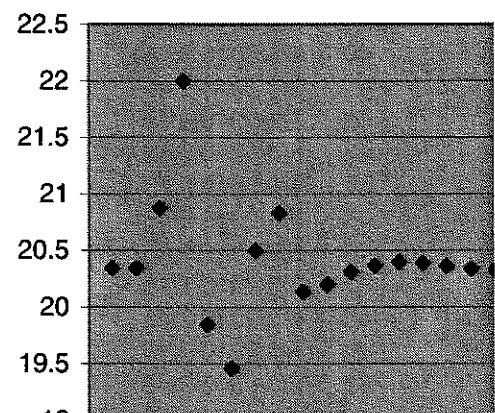
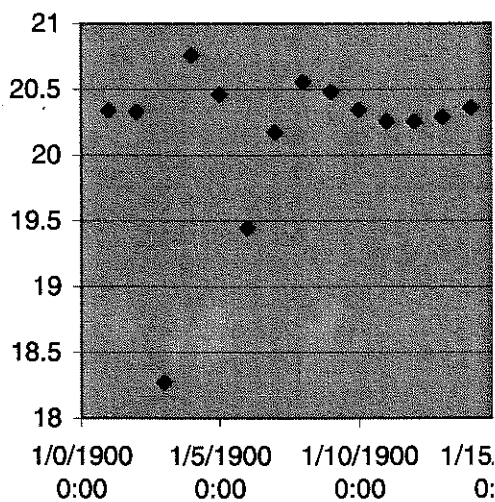
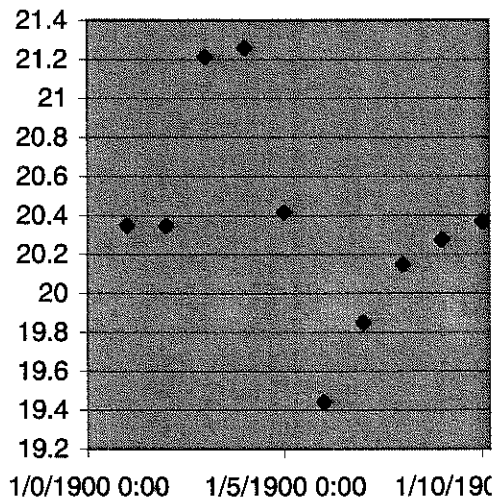
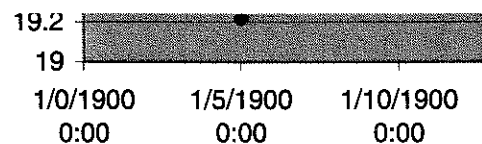
Plot Title: iW-1

Time, GMT-05:0 Abs Pres, Temp, °F Batt, V Coupler De Coupler Att Host Conn Stopped

1	5/3/2010 9:44	14.2162	60.195	3.46
2	5/3/2010 9:44	14.2162	60.195	3.46
3	5/3/2010 9:44	14.2162	60.195	3.46
4	5/3/2010 9:44	14.2162	60.195	3.46
5	5/3/2010 9:44	14.2183	60.195	3.46
6	5/3/2010 9:44	14.2183	60.195	3.46
7	5/3/2010 9:44	14.2166	60.368	3.46
8	5/3/2010 9:44	14.2166	60.368	3.46
9	5/3/2010 9:44	14.2166	60.368	3.46
10	5/3/2010 9:44	14.2188	60.368	3.46
11	5/3/2010 9:44	14.2188	60.368	3.46
12	5/3/2010 9:44	14.2188	60.368	3.46
13	5/3/2010 9:44	14.2188	60.368	3.46
14	5/3/2010 9:45	14.2166	60.368	3.46
15	5/3/2010 9:45	14.223	60.368	3.46
16	5/3/2010 9:45	14.2272	60.368	3.46
17	5/3/2010 9:45	14.2297	60.539	3.46
18	5/3/2010 9:45	14.2318	60.539	3.46
19	5/3/2010 9:45	14.2318	60.539	3.46
20	5/3/2010 9:45	14.2343	60.712	3.46
21	5/3/2010 9:45	14.2365	60.712	3.46
22	5/3/2010 9:45	14.2365	60.712	3.46
23	5/3/2010 9:45	14.2389	60.883	3.46
24	5/3/2010 9:45	14.2411	60.883	3.46
25	5/3/2010 9:45	14.2411	60.883	3.46
26	5/3/2010 9:45	14.2394	61.054	3.46
27	5/3/2010 9:45	14.2394	61.054	3.46
28	5/3/2010 9:45	14.2398	61.227	3.46
29	5/3/2010 9:45	14.2398	61.227	3.46
30	5/3/2010 9:45	14.2398	61.227	3.46
31	5/3/2010 9:45	14.2359	61.398	3.46
32	5/3/2010 9:45	14.2317	61.398	3.46
33	5/3/2010 9:45	14.2341	61.569	3.46
34	5/3/2010 9:45	14.2341	61.569	3.46
35	5/3/2010 9:45	14.2321	61.569	3.46
36	5/3/2010 9:45	14.2346	61.741	3.46
37	5/3/2010 9:45	14.2346	61.741	3.46
38	5/3/2010 9:45	14.2328	61.912	3.46
39	5/3/2010 9:45	14.2308	61.912	3.46
40	5/3/2010 9:45	14.2286	61.912	3.46
41	5/3/2010 9:45	14.2291	62.083	3.48
42	5/3/2010 9:45	14.2312	62.083	3.48
43	5/3/2010 9:45	14.2295	62.254	3.48
44	5/3/2010 9:45	14.2315	62.254	3.48
45	5/3/2010 9:45	14.232	62.425	3.48
46	5/3/2010 9:45	14.232	62.425	3.48
47	5/3/2010 9:45	14.232	62.425	3.48
48	5/3/2010 9:45	14.2344	62.598	3.48
49	5/3/2010 9:45	14.9863	62.598	3.48
50	5/3/2010 9:45	15.6004	62.598	3.48



51	5/3/2010 9:45	15.7905	62.598	3.48
52	5/3/2010 9:45	16.2573	62.598	3.48
53	5/3/2010 9:45	16.9942	62.598	3.48
54	5/3/2010 9:45	18.0214	62.425	3.48
55	5/3/2010 9:45	18.822	62.425	3.48
56	5/3/2010 9:45	19.4072	62.254	3.48
57	5/3/2010 9:45	19.8435	62.083	3.48
58	5/3/2010 9:45	19.9327	61.912	3.48
59	5/3/2010 9:45	19.9803	61.741	3.48
60	5/3/2010 9:45	20.0043	61.741	3.48
61	5/3/2010 9:45	20.0278	61.569	3.48
62	5/3/2010 9:45	20.0053	61.398	3.48
63	5/3/2010 9:45	20.0355	61.227	3.48
64	5/3/2010 9:45	20.0502	61.054	3.48
65	5/3/2010 9:45	20.0677	61.054	3.48
66	5/3/2010 9:45	20.0847	60.883	3.48
67	5/3/2010 9:45	20.0973	60.712	3.48
68	5/3/2010 9:45	20.1143	60.539	3.48
69	5/3/2010 9:45	20.1267	60.368	3.48
70	5/3/2010 9:45	20.1399	60.368	3.48
71	5/3/2010 9:45	20.1504	60.195	3.48
72	5/3/2010 9:45	20.1607	60.024	3.48
73	5/3/2010 9:45	20.1739	60.024	3.48
74	5/3/2010 9:46	20.182	59.851	3.48
75	5/3/2010 9:46	20.1924	59.68	3.48
76	5/3/2010 9:46	20.2011	59.68	3.48
77	5/3/2010 9:46	20.2116	59.508	3.48
78	5/3/2010 9:46	20.2175	59.337	3.48
79	5/3/2010 9:46	20.2264	59.337	3.48
80	5/3/2010 9:46	20.2323	59.164	3.48
81	5/3/2010 9:46	20.2389	59.164	3.48
82	5/3/2010 9:46	20.2449	58.993	3.51
83	5/3/2010 9:46	20.2509	58.82	3.51
84	5/3/2010 9:46	20.2576	58.82	3.51
85	5/3/2010 9:46	20.2635	58.647	3.51
86	5/3/2010 9:46	20.2679	58.647	3.51
87	5/3/2010 9:46	20.2718	58.476	3.51
88	5/3/2010 9:46	20.2761	58.476	3.51
89	5/3/2010 9:46	20.2799	58.303	3.51
90	5/3/2010 9:46	20.2843	58.303	3.51
91	5/3/2010 9:46	20.2882	58.131	3.51
92	5/3/2010 9:46	20.2919	57.958	3.51
93	5/3/2010 9:46	20.2963	57.958	3.51
94	5/3/2010 9:46	20.2957	57.785	3.51
95	5/3/2010 9:46	20.2979	57.785	3.51
96	5/3/2010 9:46	20.3018	57.614	3.51
97	5/3/2010 9:46	20.304	57.614	3.48
98	5/3/2010 9:46	20.3062	57.614	3.48
99	5/3/2010 9:46	20.3077	57.441	3.48
100	5/3/2010 9:46	20.3099	57.441	3.48
101	5/3/2010 9:46	20.3115	57.268	3.48
102	5/3/2010 9:46	20.3138	57.268	3.48



103	5/3/2010 9:46	20.3154	57.096	3.48
104	5/3/2010 9:46	20.3176	57.096	3.48
105	5/3/2010 9:46	20.3192	56.923	3.48
106	5/3/2010 9:46	20.3192	56.923	3.48
107	5/3/2010 9:46	20.3214	56.923	3.48
108	5/3/2010 9:46	20.323	56.75	3.48
109	5/3/2010 9:46	20.323	56.75	3.48
110	5/3/2010 9:46	20.3247	56.577	3.48
111	5/3/2010 9:46	20.3269	56.577	3.48
112	5/3/2010 9:46	20.3263	56.404	3.48
113	5/3/2010 9:46	20.3263	56.404	3.48
114	5/3/2010 9:46	20.3285	56.404	3.48
115	5/3/2010 9:46	20.3323	56.23	3.48
116	5/3/2010 9:46	21.1027	56.23	3.48
117	5/3/2010 9:46	20.5027	56.057	3.48
118	5/3/2010 9:46	21.2693	56.057	3.48
119	5/3/2010 9:46	20.99	56.057	3.48
120	5/3/2010 9:46	19.6184	55.884	3.48
121	5/3/2010 9:46	19.7341	55.884	3.48
122	5/3/2010 9:46	20.2129	55.884	3.48
123	5/3/2010 9:46	20.3021	55.711	3.48
124	5/3/2010 9:46	20.3613	55.711	3.48
125	5/3/2010 9:46	20.3869	55.537	3.48
126	5/3/2010 9:46	20.3804	55.537	3.48
127	5/3/2010 9:46	20.3388	55.537	3.48
128	5/3/2010 9:46	20.3053	55.364	3.48
129	5/3/2010 9:46	20.2812	55.364	3.48
130	5/3/2010 9:46	20.2828	55.189	3.48
131	5/3/2010 9:46	20.296	55.189	3.48
132	5/3/2010 9:46	20.3114	55.189	3.48
133	5/3/2010 9:46	20.3238	55.017	3.48
134	5/3/2010 9:47	20.3262	55.017	3.48
135	5/3/2010 9:47	20.3262	55.017	3.48
136	5/3/2010 9:47	20.3256	54.842	3.48
137	5/3/2010 9:47	20.3211	54.842	3.48
138	5/3/2010 9:47	20.3189	54.842	3.48
139	5/3/2010 9:47	20.3205	54.669	3.48
140	5/3/2010 9:47	20.3228	54.669	3.48
141	5/3/2010 9:47	20.3244	54.495	3.48
142	5/3/2010 9:47	20.3266	54.495	3.48
143	5/3/2010 9:47	20.331	54.495	3.48
144	5/3/2010 9:47	20.331	54.495	3.48
145	5/3/2010 9:47	20.3326	54.322	3.48
146	5/3/2010 9:47	20.3326	54.322	3.48
147	5/3/2010 9:47	20.3347	54.322	3.48
148	5/3/2010 9:47	20.332	54.147	3.48
149	5/3/2010 9:47	20.3363	54.147	3.48
150	5/3/2010 9:47	20.3363	54.147	3.48
151	5/3/2010 9:47	20.3359	53.973	3.48
152	5/3/2010 9:47	20.3381	53.973	3.48
153	5/3/2010 9:47	20.3402	53.973	3.48
154	5/3/2010 9:47	20.3397	53.798	3.48

19

1/0/1900	1/5/1900	1/10/190	1/15/190
0:00	0:00	0 0:00	0 0:00

155	5/3/2010 9:47	20.3375	53.798	3.48
156	5/3/2010 9:47	20.3397	53.798	3.48
157	5/3/2010 9:47	20.3397	53.798	3.48
158	5/3/2010 9:47	20.3413	53.623	3.48
159	5/3/2010 9:47	20.3413	53.623	3.48
160	5/3/2010 9:47	20.3413	53.623	3.48
161	5/3/2010 9:47	20.3434	53.623	3.48
162	5/3/2010 9:47	20.3428	53.449	3.48
163	5/3/2010 9:47	20.3428	53.449	3.48
164	5/3/2010 9:47	20.3428	53.449	3.48
165	5/3/2010 9:47	20.3423	53.274	3.48
166	5/3/2010 9:47	20.3444	53.274	3.48
167	5/3/2010 9:47	20.3444	53.274	3.48
168	5/3/2010 9:47	20.3444	53.274	3.48
169	5/3/2010 9:47	20.3444	53.274	3.48
170	5/3/2010 9:47	20.3373	53.1	3.48
171	5/3/2010 9:47	19.662	53.1	3.48
172	5/3/2010 9:47	19.2175	53.1	3.48
173	5/3/2010 9:47	20.8614	53.1	3.48
174	5/3/2010 9:47	20.5711	52.925	3.48
175	5/3/2010 9:47	20.4441	52.925	3.48
176	5/3/2010 9:47	20.5317	52.925	3.48
177	5/3/2010 9:47	20.4528	52.925	3.48
178	5/3/2010 9:47	20.3389	52.925	3.48
179	5/3/2010 9:47	20.2683	52.75	3.48
180	5/3/2010 9:47	20.2618	52.75	3.48
181	5/3/2010 9:47	20.3012	52.75	3.48
182	5/3/2010 9:47	20.3472	52.75	3.48
183	5/3/2010 9:47	20.3778	52.75	3.48
184	5/3/2010 9:47	20.3794	52.576	3.48
185	5/3/2010 9:47	20.3618	52.576	3.48
186	5/3/2010 9:47	20.3421	52.576	3.48
187	5/3/2010 9:47	20.3334	52.576	3.48
188	5/3/2010 9:47	20.3334	52.576	3.48
189	5/3/2010 9:47	20.3421	52.576	3.48
190	5/3/2010 9:47	20.3482	52.401	3.48
191	5/3/2010 9:47	20.3526	52.401	3.48
192	5/3/2010 9:47	20.3482	52.401	3.48
193	5/3/2010 9:47	20.346	52.401	3.48
194	5/3/2010 9:48	20.3439	52.401	3.48
195	5/3/2010 9:48	20.3415	52.401	3.48
196	5/3/2010 9:48	20.3433	52.225	3.48
197	5/3/2010 9:48	20.3455	52.225	3.48
198	5/3/2010 9:48	20.3455	52.225	3.48
199	5/3/2010 9:48	20.3433	52.225	3.48
200	5/3/2010 9:48	20.3433	52.225	3.48
201	5/3/2010 9:48	20.3433	52.225	3.48
202	5/3/2010 9:48	20.3449	52.05	3.48
203	5/3/2010 9:48	20.3449	52.05	3.48
204	5/3/2010 9:48	20.3449	52.05	3.48
205	5/3/2010 9:48	20.3449	52.05	3.48
206	5/3/2010 9:48	20.3449	52.05	3.48

207	5/3/2010 9:48	20.3449	52.05	3.48
208	5/3/2010 9:48	20.3449	52.05	3.48
209	5/3/2010 9:48	20.3427	52.05	3.48
210	5/3/2010 9:48	20.3443	51.874	3.48
211	5/3/2010 9:48	20.3443	51.874	3.48
212	5/3/2010 9:48	20.3443	51.874	3.48
213	5/3/2010 9:48	20.3421	51.874	3.48
214	5/3/2010 9:48	20.3421	51.874	3.48
215	5/3/2010 9:48	20.3443	51.874	3.48
216	5/3/2010 9:48	20.3443	51.874	3.48
217	5/3/2010 9:48	20.3443	51.874	3.48
218	5/3/2010 9:48	20.3437	51.699	3.48
219	5/3/2010 9:48	20.3437	51.699	3.48
220	5/3/2010 9:48	20.3437	51.699	3.48
221	5/3/2010 9:48	20.3437	51.699	3.48
222	5/3/2010 9:48	20.3437	51.699	3.48
223	5/3/2010 9:48	20.3437	51.699	3.48
224	5/3/2010 9:48	20.3437	51.699	3.48
225	5/3/2010 9:48	20.3437	51.699	3.48
226	5/3/2010 9:48	20.3437	51.699	3.48
227	5/3/2010 9:48	20.3453	51.523	3.48
228	5/3/2010 9:48	20.3431	51.523	3.48
229	5/3/2010 9:48	20.3453	51.523	3.48
230	5/3/2010 9:48	20.3431	51.523	3.48
231	5/3/2010 9:48	20.3453	51.523	3.48
232	5/3/2010 9:48	20.3431	51.523	3.48
233	5/3/2010 9:48	20.3431	51.523	3.48
234	5/3/2010 9:48	20.3431	51.523	3.48
235	5/3/2010 9:48	20.3431	51.523	3.48
236	5/3/2010 9:48	20.3426	51.346	3.48
237	5/3/2010 9:48	20.3426	51.346	3.48
238	5/3/2010 9:48	20.3426	51.346	3.48
239	5/3/2010 9:48	20.3426	51.346	3.48
240	5/3/2010 9:48	20.3426	51.346	3.48
241	5/3/2010 9:48	20.3404	51.346	3.48
242	5/3/2010 9:48	20.3404	51.346	3.48
243	5/3/2010 9:48	20.3426	51.346	3.48
244	5/3/2010 9:48	20.3426	51.346	3.48
245	5/3/2010 9:48	20.3426	51.346	3.48
246	5/3/2010 9:48	20.3426	51.346	3.48
247	5/3/2010 9:48	20.342	51.172	3.48
248	5/3/2010 9:48	20.3442	51.172	3.48
249	5/3/2010 9:48	20.342	51.172	3.48
250	5/3/2010 9:48	20.342	51.172	3.48
251	5/3/2010 9:48	20.342	51.172	3.48
252	5/3/2010 9:48	20.342	51.172	3.48
253	5/3/2010 9:48	20.342	51.172	3.48
254	5/3/2010 9:49	20.3442	51.172	3.48
255	5/3/2010 9:49	20.342	51.172	3.48
256	5/3/2010 9:49	20.3442	51.172	3.48
257	5/3/2010 9:49	20.342	51.172	3.48
258	5/3/2010 9:49	20.342	51.172	3.48

259	5/3/2010 9:49	20.3442	51.172	3.48
260	5/3/2010 9:49	20.3414	50.995	3.48
261	5/3/2010 9:49	20.3414	50.995	3.48
262	5/3/2010 9:49	20.3414	50.995	3.48
263	5/3/2010 9:49	20.3414	50.995	3.48
264	5/3/2010 9:49	20.3414	50.995	3.48
265	5/3/2010 9:49	20.3414	50.995	3.48
266	5/3/2010 9:49	20.3436	50.995	3.48
267	5/3/2010 9:49	20.3457	50.995	3.48
268	5/3/2010 9:49	20.3457	50.995	3.48
269	5/3/2010 9:49	20.3436	50.995	3.48
270	5/3/2010 9:49	20.3479	50.995	3.48
271	5/3/2010 9:49	20.3457	50.995	3.48
272	5/3/2010 9:49	21.2125	50.995	3.48
273	5/3/2010 9:49	21.2586	50.995	3.48
274	5/3/2010 9:49	20.4158	50.995	3.48
275	5/3/2010 9:49	19.4411	50.819	3.48
276	5/3/2010 9:49	19.849	50.819	3.48
277	5/3/2010 9:49	20.1482	50.819	3.48
278	5/3/2010 9:49	20.2751	50.819	3.48
279	5/3/2010 9:49	20.3671	50.819	3.48
280	5/3/2010 9:49	20.4043	50.819	3.48
281	5/3/2010 9:49	20.4109	50.819	3.48
282	5/3/2010 9:49	20.3803	50.819	3.48
283	5/3/2010 9:49	20.3452	50.819	3.48
284	5/3/2010 9:49	20.3233	50.819	3.48
285	5/3/2010 9:49	20.3124	50.819	3.48
286	5/3/2010 9:49	20.3189	50.819	3.48
287	5/3/2010 9:49	20.3294	50.643	3.48
288	5/3/2010 9:49	20.3402	50.643	3.48
289	5/3/2010 9:49	20.3446	50.643	3.48
290	5/3/2010 9:49	20.3489	50.643	3.48
291	5/3/2010 9:49	20.3424	50.643	3.48
292	5/3/2010 9:49	20.3381	50.643	3.48
293	5/3/2010 9:49	20.3359	50.643	3.48
294	5/3/2010 9:49	20.3337	50.643	3.48
295	5/3/2010 9:49	20.3359	50.643	3.48
296	5/3/2010 9:49	20.3381	50.643	3.48
297	5/3/2010 9:49	20.3402	50.643	3.48
298	5/3/2010 9:49	20.3402	50.643	3.48
299	5/3/2010 9:49	20.3402	50.643	3.48
300	5/3/2010 9:49	20.3402	50.643	3.48
301	5/3/2010 9:49	20.3402	50.643	3.48
302	5/3/2010 9:49	20.3397	50.466	3.48
303	5/3/2010 9:49	20.3397	50.466	3.48
304	5/3/2010 9:49	20.3397	50.466	3.48
305	5/3/2010 9:49	20.3265	50.466	3.48
306	5/3/2010 9:49	18.2719	50.466	3.48
307	5/3/2010 9:49	20.7604	50.466	3.48
308	5/3/2010 9:49	20.46	50.466	3.48
309	5/3/2010 9:49	19.4443	50.466	3.48
310	5/3/2010 9:49	20.1756	50.466	3.48

311	5/3/2010 9:49	20.5565	50.466	3.48
312	5/3/2010 9:49	20.4798	50.466	3.48
313	5/3/2010 9:49	20.344	50.466	3.48
314	5/3/2010 9:50	20.2566	50.466	3.48
315	5/3/2010 9:50	20.2566	50.466	3.48
316	5/3/2010 9:50	20.2893	50.466	3.48
317	5/3/2010 9:50	20.3594	50.466	3.48
318	5/3/2010 9:50	20.3922	50.466	3.48
319	5/3/2010 9:50	20.3943	50.466	3.48
320	5/3/2010 9:50	20.3659	50.466	3.48
321	5/3/2010 9:50	20.3375	50.466	3.48
322	5/3/2010 9:50	20.3282	50.29	3.48
323	5/3/2010 9:50	20.3282	50.29	3.48
324	5/3/2010 9:50	20.3391	50.29	3.48
325	5/3/2010 9:50	20.3566	50.29	3.48
326	5/3/2010 9:50	20.3478	50.29	3.48
327	5/3/2010 9:50	20.3523	50.29	3.48
328	5/3/2010 9:50	20.3456	50.29	3.48
329	5/3/2010 9:50	20.3434	50.29	3.48
330	5/3/2010 9:50	20.3456	50.29	3.48
331	5/3/2010 9:50	20.3456	50.29	3.48
332	5/3/2010 9:50	20.3369	50.29	3.48
333	5/3/2010 9:50	20.3434	50.29	3.48
334	5/3/2010 9:50	20.3434	50.29	3.48
335	5/3/2010 9:50	20.3434	50.29	3.48
336	5/3/2010 9:50	20.874	50.29	3.48
337	5/3/2010 9:50	21.999	50.29	3.48
338	5/3/2010 9:50	19.8429	50.29	3.48
339	5/3/2010 9:50	19.4591	50.29	3.48
340	5/3/2010 9:50	20.4967	50.29	3.48
341	5/3/2010 9:50	20.8279	50.29	3.48
342	5/3/2010 9:50	20.1356	50.29	3.48
343	5/3/2010 9:50	20.1968	50.29	3.48
344	5/3/2010 9:50	20.3106	50.29	3.48
345	5/3/2010 9:50	20.3653	50.29	3.48
346	5/3/2010 9:50	20.3959	50.29	3.48
347	5/3/2010 9:50	20.3851	50.29	3.48
348	5/3/2010 9:50	20.361	50.29	3.48
349	5/3/2010 9:50	20.3369	50.29	3.48
350	5/3/2010 9:50	20.3209	50.113	3.48
351	5/3/2010 9:50	20.3144	50.113	3.48
352	5/3/2010 9:50	20.3231	50.113	3.48
353	5/3/2010 9:50	20.3363	50.113	3.48
354	5/3/2010 9:50	20.3407	50.113	3.48
355	5/3/2010 9:50	20.3428	50.113	3.48
356	5/3/2010 9:50	20.3407	50.113	3.48
357	5/3/2010 9:50	20.3363	50.113	3.48
358	5/3/2010 9:50	20.3341	50.113	3.48
359	5/3/2010 9:50	20.332	50.113	3.48
360	5/3/2010 9:50	20.3363	50.113	3.48
361	5/3/2010 9:50	20.3341	50.113	3.48
362	5/3/2010 9:50	20.3363	50.113	3.48

363	5/3/2010 9:50	20.3385	50.113	3.48
364	5/3/2010 9:50	20.3385	50.113	3.48
365	5/3/2010 9:50	20.3341	50.113	3.48
366	5/3/2010 9:50	20.3363	50.113	3.48
367	5/3/2010 9:50	20.3253	50.113	3.48
368	5/3/2010 9:50	20.3341	50.113	3.48
369	5/3/2010 9:50	20.4545	50.113	3.48
370	5/3/2010 9:50	20.2925	50.113	3.48
371	5/3/2010 9:50	19.9362	50.113	3.48
372	5/3/2010 9:50	20.2313	50.113	3.48
373	5/3/2010 9:50	20.5443	50.113	3.48
374	5/3/2010 9:51	20.54	50.113	3.48
375	5/3/2010 9:51	20.4107	50.113	3.48
376	5/3/2010 9:51	20.2903	50.113	3.48
377	5/3/2010 9:51	20.2335	50.113	3.48
378	5/3/2010 9:51	20.2509	50.113	3.48
379	5/3/2010 9:51	20.3101	50.113	3.48
380	5/3/2010 9:51	20.3647	50.113	3.48
381	5/3/2010 9:51	20.3866	50.113	3.48
382	5/3/2010 9:51	20.3758	50.113	3.48
383	5/3/2010 9:51	20.3517	50.113	3.48
384	5/3/2010 9:51	20.3292	49.937	3.48
385	5/3/2010 9:51	20.3204	49.937	3.48
386	5/3/2010 9:51	20.327	49.937	3.48
387	5/3/2010 9:51	20.3379	49.937	3.48
388	5/3/2010 9:51	20.3466	49.937	3.48
389	5/3/2010 9:51	20.3511	49.937	3.48
390	5/3/2010 9:51	20.3488	49.937	3.48
391	5/3/2010 9:51	20.3444	49.937	3.48
392	5/3/2010 9:51	20.3423	49.937	3.48
393	5/3/2010 9:51	20.3379	49.937	3.48
394	5/3/2010 9:51	20.3379	49.937	3.48
395	5/3/2010 9:51	20.3379	49.937	3.48
396	5/3/2010 9:51	20.3401	49.937	3.48
397	5/3/2010 9:51	20.3401	49.937	3.48
398	5/3/2010 9:51	20.3401	49.937	3.48
399	5/3/2010 9:51	20.3401	49.937	3.48
400	5/3/2010 9:51	20.3379	49.937	3.48
401	5/3/2010 9:51	20.3379	49.937	3.48
402	5/3/2010 9:51	20.3401	49.937	3.48
403	5/3/2010 9:51	20.3444	49.937	3.48
404	5/3/2010 9:51	20.3423	49.937	3.48
405	5/3/2010 9:51	20.3466	49.937	3.48
406	5/3/2010 9:51	20.3466	49.937	3.48
407	5/3/2010 9:51	20.3423	49.937	3.48
408	5/3/2010 9:51	20.3379	49.937	3.48
409	5/3/2010 9:51	20.3357	49.937	3.48
410	5/3/2010 9:51	20.3357	49.937	3.48
411	5/3/2010 9:51	20.3379	49.937	3.48
412	5/3/2010 9:51	20.3423	49.937	3.48
413	5/3/2010 9:51	20.3444	49.937	3.48
414	5/3/2010 9:51	20.3488	49.937	3.48

415	5/3/2010 9:51	20.3466	49.937	3.48
416	5/3/2010 9:51	20.3444	49.937	3.48
417	5/3/2010 9:51	20.3401	49.937	3.48
418	5/3/2010 9:51	20.3401	49.937	3.48
419	5/3/2010 9:51	20.3379	49.937	3.48
420	5/3/2010 9:51	20.3357	49.937	3.48
421	5/3/2010 9:51	20.3357	49.937	3.48
422	5/3/2010 9:51	20.3357	49.937	3.48
423	5/3/2010 9:51	20.3379	49.937	3.48
424	5/3/2010 9:51	20.3423	49.937	3.48
425	5/3/2010 9:51	20.3444	49.937	3.48
426	5/3/2010 9:51	20.3444	49.937	3.48
427	5/3/2010 9:51	20.3423	49.937	3.48
428	5/3/2010 9:51	20.3379	49.937	3.48
429	5/3/2010 9:51	20.3379	49.937	3.48
430	5/3/2010 9:51	20.3379	49.937	3.48
431	5/3/2010 9:51	20.3379	49.937	3.48
432	5/3/2010 9:51	20.3379	49.937	3.48
433	5/3/2010 9:51	20.3379	49.937	3.48
434	5/3/2010 9:52	20.3379	49.937	3.48
435	5/3/2010 9:52	20.3401	49.937	3.48
436	5/3/2010 9:52	20.0426	49.937	3.48
437	5/3/2010 9:52	19.3926	49.937	3.48
438	5/3/2010 9:52	17.9697	49.937	3.48
439	5/3/2010 9:52	16.5215	49.937	3.48
440	5/3/2010 9:52	15.2574	49.937	3.48
441	5/3/2010 9:52	14.1946	49.937	3.48
442	5/3/2010 9:52	14.2009	49.937	3.48
443	5/3/2010 9:52	14.2157	49.937	3.48
444	5/3/2010 9:52	14.2136	49.937	3.48
445	5/3/2010 9:52	14.2326	49.937	3.48
446	5/3/2010 9:52	14.222	49.937	3.48
447	5/3/2010 9:52	14.2389	49.937	3.48
448	5/3/2010 9:52	14.2415	50.113	3.48
449	5/3/2010 9:52	14.2626	50.113	3.48
450	5/3/2010 9:52	14.269	50.113	3.48
451	5/3/2010 9:52	14.2778	50.29	3.48
452	5/3/2010 9:52	14.28	50.29	3.48
453	5/3/2010 9:52	14.2868	50.466	3.48
454	5/3/2010 9:52	14.291	50.466	3.48
455	5/3/2010 9:52	14.2935	50.643	3.48
456	5/3/2010 9:52	14.2935	50.643	3.48
457	5/3/2010 9:52	14.2897	50.819	3.48
458	5/3/2010 9:52	14.2855	50.819	3.48
459	5/3/2010 9:52	14.2816	50.995	3.48
460	5/3/2010 9:52	14.2774	50.995	3.48
461	5/3/2010 9:52	14.2736	51.172	3.48
462	5/3/2010 9:52	14.2694	51.172	3.48
463	5/3/2010 9:52	14.2655	51.346	3.48
464	5/3/2010 9:52	14.2634	51.346	3.48
465	5/3/2010 9:52	14.2595	51.523	3.48
466	5/3/2010 9:52	14.2553	51.523	3.48

467	5/3/2010 9:52	14.2536	51.699	3.48
468	5/3/2010 9:52	14.2472	51.699	3.48
469	5/3/2010 9:52	14.2392	51.874	3.48
470	5/3/2010 9:52	14.2414	51.874	3.48
471	5/3/2010 9:52	14.2397	52.05	3.48
472	5/3/2010 9:52	14.2397	52.05	3.48
473	5/3/2010 9:52	14.2379	52.225	3.48
474	5/3/2010 9:52	14.2357	52.225	3.48
475	5/3/2010 9:52	14.2341	52.401	3.48
476	5/3/2010 9:52	14.2341	52.401	3.48
477	5/3/2010 9:52	14.2282	52.576	3.48
478	5/3/2010 9:52	14.226	52.576	3.48
479	5/3/2010 9:52	14.2265	52.75	3.48
480	5/3/2010 9:52	14.2243	52.75	3.48
481	5/3/2010 9:52	14.2225	52.925	3.48
482	5/3/2010 9:52	14.2205	52.925	3.48
483	5/3/2010 9:52	14.2188	53.1	3.48
484	5/3/2010 9:52	14.2166	53.1	3.48
485	5/3/2010 9:52	14.217	53.274	3.48
486	5/3/2010 9:52	14.215	53.274	3.48
487	5/3/2010 9:52	14.2133	53.449	3.48
488	5/3/2010 9:52	14.2133	53.449	3.48
489	5/3/2010 9:52	14.2111	53.449	3.48
490	5/3/2010 9:52	14.2093	53.623	3.48
491	5/3/2010 9:52	14.2093	53.623	3.48
492	5/3/2010 9:52	14.2078	53.798	3.48
493	5/3/2010 9:52	14.2078	53.798	3.48
494	5/3/2010 9:53	14.2078	53.798	3.48
495	5/3/2010 9:53	14.208	53.973	3.48
496	5/3/2010 9:53	14.208	53.973	3.48
497	5/3/2010 9:53	14.206	53.973	3.48
498	5/3/2010 9:53	14.2064	54.147	3.48
499	5/3/2010 9:53	14.2064	54.147	3.48
500	5/3/2010 9:53	14.2089	54.322	3.48
501	5/3/2010 9:53	14.2111	54.322	3.48
502	5/3/2010 9:53	14.2136	54.495	3.48
503	5/3/2010 9:53	14.2178	54.495	3.48
504	5/3/2010 9:53	14.2204	54.669	3.48
505	5/3/2010 9:53	14.2246	54.669	3.48
506	5/3/2010 9:53	14.2312	54.842	3.48
507	5/3/2010 9:53	14.2312	54.842	3.48
508	5/3/2010 9:53	14.2381	55.017	3.48
509	5/3/2010 9:53	14.2465	55.017	3.48
510	5/3/2010 9:53	14.2553	55.189	3.48
511	5/3/2010 9:53	14.2639	55.189	3.48
512	5/3/2010 9:53	14.2685	55.364	3.48
513	5/3/2010 9:53	14.2685	55.364	3.48
514	5/3/2010 9:53	14.269	55.537	3.48
515	5/3/2010 9:53	14.2672	55.711	3.48
516	5/3/2010 9:53	14.265	55.711	3.48
517	5/3/2010 9:53	14.2613	55.884	3.48
518	5/3/2010 9:53	14.2571	55.884	3.48

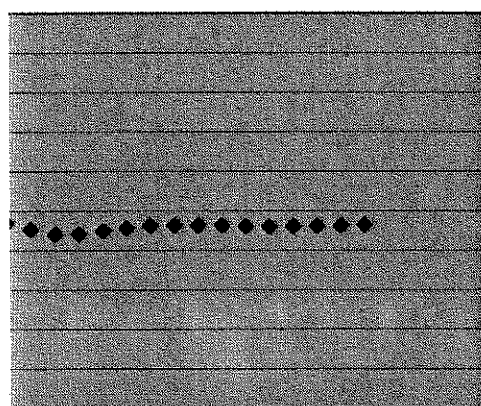
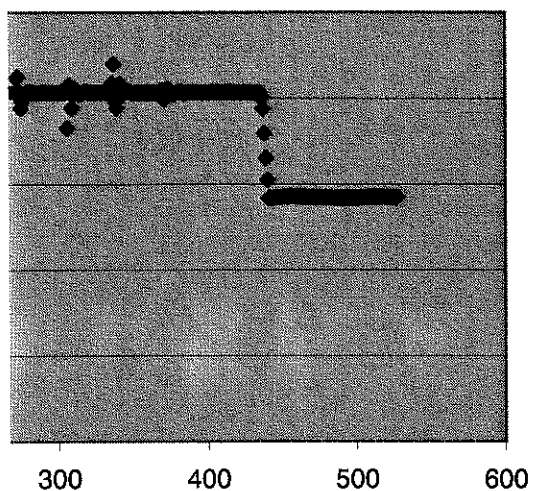
Logged

Logged

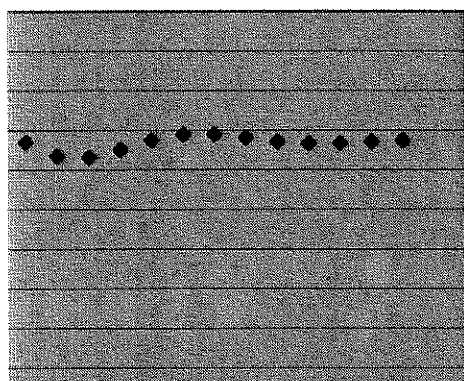
519	5/3/2010 9:53	14.2531	56.057	3.48
520	5/3/2010 9:53	14.2489	56.057	3.48
521	5/3/2010 9:53	14.2472	56.23	3.48
522	5/3/2010 9:53	14.243	56.23	3.48
523	5/3/2010 9:53	14.2392	56.404	3.48
524	5/3/2010 9:53	14.237	56.404	3.48
525	5/3/2010 9:53	14.2353	56.577	3.48
526	5/3/2010 9:53	14.2331	56.577	3.48
527	5/3/2010 9:53	14.2294	56.75	3.48

Logged

End Of File

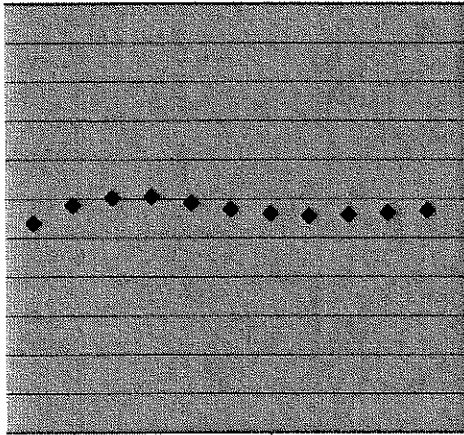


/190 1/20/190 1/25/190 1/30/190 2/4/1900
:00 0 0:00 0 0:00 0 0:00 0 0:00

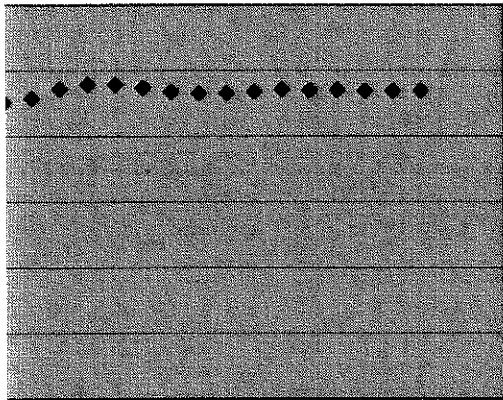




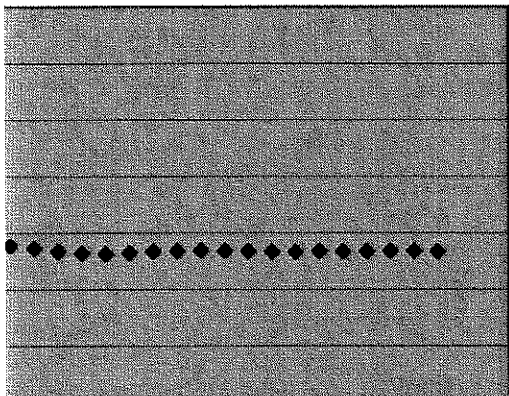
900 1/15/1900 1/20/1900 1/25/1900
0 0:00 0:00 0:00



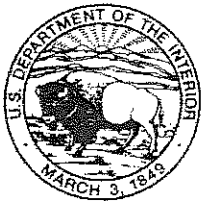
10/1900 0:00 1/15/1900 0:00 1/20/1900 0:00



1/15/1900 1/20/1900 1/25/1900 1/30/1900
0:00 0:00 0:00 0:00



15/190	1/20/190	1/25/190	1/30/190	2/4/1900
00:00	00:00	00:00	00:00	0:00



United States Department of the Interior

U. S. GEOLOGICAL SURVEY
Illinois Water Science Center
1201 West University Ave., Suite 100
Urbana, Illinois 61801-2347
(217) 328-9719
Fax (217) 344-0082
Web Site: il.water.usgs.gov/

December 11, 2013

Mr. John Nordine
U.S. Environmental Protection Agency
Region V, LU-9J
77 W. Jackson Blvd.
Chicago, IL 60604

Dear John:

Attached please find a cost estimate for Bob Kay to provide you with additional technical assistance at the Techalloy/Central Wire facility in Union, Illinois. Based on your discussions with Bob Kay of our DeKalb office, we anticipate the work activities will involve oversight of two sampling events, review of monthly progress reports, two site meetings with Techalloy representatives, and review of miscellaneous additional site investigative reports and work plans. These work activities would be funded from monies available in interagency agreement (IAG) DW-14-95813001-3 and are expected to occur during the 2014 calendar year. If this cost estimate is acceptable to you, please initiate the paperwork you will need to allow us to commence work.

Feel free to call Robert Kay at 815-756-9207 or Kelly Welborn at 217-328-9740 if you have any questions or comments.

Sincerely,

Douglas J. Yeskis
Director, USGS Illinois Water Science Center

cc. Welborn
Kay

Work Activities

Review of consultant documents 40 hours of salary

Meeting to discuss site conditions 10 hours of salary

Oversight of Field sampling activities 40 hours of salary

Cost Summary 90 hours salary

Personnel	\$6,785
-----------	---------

Fringe Benefits	\$ 814
-----------------	--------

Direct Costs	\$7,599
--------------	---------

Indirect Costs (<u>composite rate 1.5629</u>)	\$4,326
---	---------

Total	\$11,925
-------	----------